

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/B2004/003573

International filing date (day/month/year)
21.10.2004

Priority date (day/month/year)
21.10.2003

International Patent Classification (IPC) or both national classification and IPC
H04L29/06, H04L29/14

Applicant
NOKIA CORPORATION

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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10/581207

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IB2004/003573

AP20 Rec'd PCT/PTO 01 JUN 2006

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IB2004/003573

Box No. IV Lack of unity of invention

1. ☒ In response to the invitation (Form PCT/ISA206) to pay additional fees, the applicant has:
- ☒ paid additional fees.
 - ☐ paid additional fees under protest.
 - ☐ not paid additional fees.
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is
- ☐ complied with
 - ☒ not complied with for the following reasons:
see separate sheet
4. Consequently, this report has been established in respect of the following parts of the international application:
- ☒ all parts.
 - ☐ the parts relating to claims Nos.

Box No. V Reasoned statement under Rule 43bis.1(a)(I) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	3-18, 22-23, 25, 26, 34
	No: Claims	1, 2, 19-21, 24, 27-33
Inventive step (IS)	Yes: Claims	
	No: Claims	1-34
Industrial applicability (IA)	Yes: Claims	1-34
	No: Claims	

2. Citations and explanations

see separate sheet

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/IB2004/003573

Reference is made to the following documents:

- D1: US 2003/191831 A1 (HU WEI ET AL) 9 October 2003 (2003-10-09)
- D2: US-A-5 917 537 (LIGHTFOOT ET AL) 29 June 1999 (1999-06-29)
- D3: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); IP Multimedia Call Control Protocol based on SIP and SDP; Stage 3 (3GPP TS 24.229 version 5.5.0 Release 5); ETSI TS 124 229" XP014008077 ISSN: 0000-0001
- D4: "Interoperability Specifications (IOS) For cdma2000 Access Network Interfaces" TIA/EIA INTERIM STANDARD, [Online] December 2000 (2000-12), page 01-04, I-XVI, 236-239, 729-730, XP002334151

Re Item IV

Lack of unity of invention

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1-26, 34 when dependent on 19-25

A method, network element, user equipment and system for sending an error message in dependence on the type of a first message.

27-33, 34 when dependent on 30-33

A method, network element and system for determining a type of registration.

They are not so linked as to form a single general inventive concept (Rule 13.1 PCT) for the following reasons:

For the following reasoning document D2=US5917537 ("Level 1 Gateway for video dial tone networks") is taken into account. From this prior art document, what is known is a method for handling service failures in a communications network (column 5 line 48- column 15 line 39, Figures 1, 2) comprising a user equipment (Digital Entertainment Terminal "DET"), a first network element (Level 1 Gateway "L1") and a serving network element (Level 2 Gateway "L2/Server"), the method comprising the steps of receiving at the first network element a first message from the user equipment (column 12 line 8-

column 13 line 67; Fig. 2, S5 "VIP Selection Msg."); transmitting a message from the first network element to the serving network element (Fig. 2, S7 "Customer Calling Msg."); detecting at the first network element that the serving network element is out of service (column 12 lines 42-44); sending from the first network element to the user equipment an error message including an indication that the serving network element is out of service (column 12 lines 44-54, Fig. 2I). Document US5917537 also discloses a user equipment (Digital Entertainment Terminal "DET") arranged to receive an error message indicating that the serving network element for the user equipment is out of service, and respond to the error message by sending a further message of a second type different to the first type to the first network element (column 13 lines 63-67).

With reference to the prior art document, the first group yields the special technical feature of determining at the first network element the type of the first message; and in dependence on the type of the first message sending from the first network element to the user equipment the error message, hence solving the objective problem of how to avoid wasting resources on finding an alternative server which would subsequently not be capable of serving the user equipment (due to for instance the lack of context information).

With reference to the prior art document, the second group yields the special technical feature of detecting at a network element an information element in a received request, and determining based on the content of the information element whether the registration request is of a first type or of a second type, hence solving the objective problem of how to find out the type of a message when such is not explicitly indicated in the request.

Consequently, neither the objective problems underlying the subjects of the 2 claimed inventions, nor the solutions as defined by the special technical features described, allow for the link of a common inventive concept to be established between the said inventions. In conclusion, therefore the 2 groups of claims are not linked by a single general inventive concept. The application hence does not meet the requirements of unity of invention as defined in Rule 13 (1) and (2) of the PCT.

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1 INDEPENDENT CLAIM 1

The present application does not meet the criteria of Article 33(1) PCT, because the subject matter of claim 1 is not new in the sense of Article 33(2)PCT.

The document D1 discloses (the references in parentheses applying to this document), in terms of claim 1:

A method for handling service failures in a communications network (D1, par. 7, 50-72 and 83-96) comprising a user equipment ("client 10"), a first network element ("retry point / component 122") and a serving network element ("a component in the sequence 114"), the method comprising the steps of:

- receiving at the first network element a first message from the user equipment;
- transmitting the first message from the first network element to the serving network element;
- detecting at the first network element that the serving network element is out of service;
- determining at the first network element the type of the first message (par. 86, 87, 91 and 92-96); and in dependence on the type of the first message sending from the first network element to the user equipment an error message including an indication that the serving network element is out of service (par 88).

Since all the features are known in combination from D1, the subject-matter of claim 1 is not new (Art. 33(2) PCT).

2 DEPENDENT CLAIMS 2-18

Dependent claims 2-18 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty (claim 2) and/or inventive step (claims 3-18) (Article 33(2) and (3) PCT).

The feature of claim 2 is already disclosed in document D1.

The feature of claim 3 is known to the person skilled in the art, and the features of claims 4-18 are disclosed in document D3. Combining the features of claims 3-18

with the method disclosed in document D1 is not considered to involve an inventive step.

3 INDEPENDENT CLAIM 19

Claim 19 is a representation of claim 1 in terms of a network element arranged to perform the steps of claim 1. Therefore, the above arguments with respect to the novelty of the subject-matter of claim 1 similarly apply to claim 19. Consequently, the subject-matter of claim 19 is also not new (Article 33(2) PCT).

4 DEPENDENT CLAIM 20

The feature of claim 20 is already disclosed in document D1. Therefore, dependent claim 20 is also not new (Article 33(2) PCT).

5 INDEPENDENT CLAIM 21

The present application does not meet the criteria of Article 33(1) PCT, because the subject matter of claim 21 is not new in the sense of Article 33(2) PCT.

Document D2 discloses (the references in parenthesis applying to this document), in terms of claim 21:

A user equipment in a communications network (column 5 line 48-column 15 line 39, Figures 1, 2; Digital Entertainment Terminal "DET") further comprising a first network element (Level 1 Gateway "L1") and a serving network element (Level 2 Gateway "L2/Server"), wherein the user equipment is arranged to receive an error message from the first network element, the error message indicating that the serving network element for the user equipment is out of service (column 12 lines 42-54, Fig. 2I), and respond to the error message by sending a further message of a second type different to the first type to the first network element (column 10 line 27-column 13 line 67).

Since all the features are known in combination from D1, the subject-matter of claim 21 is not new (Art. 33(2) PCT).

The action of responding to the error message by sending a further message of a second type different to the first type to the first network element would occur in case the first message is a "hello" message with preassigned VIP code (column 10 lines

27-52) and said VIP is out of service. The Level 1 gateway will then set off an appropriate alarm upon not receiving a response from the VIP Level 2 Gateway (column 12 lines 40-54). The Level 1 gateway will inform the DET with the message as in Figure 21 ("This provider is currently not available ---- please try again later or select another provider"), the user will issue a normal "hello" message without VIP identifier (column 11 lines 4-29), the Level 1 Gateway will reply with a "Menu Message", and the user will thereupon issue a "VIP Selection Message". In such a sequence, the "first type of message" would correspond to a "hello" message with preassigned VIP identifier and the "second type of message" would correspond to a "VIP Selection Message".

6 DEPENDENT CLAIMS 22-24

The additional features of dependent claims 22-23 are known to the person skilled in the art (see for example D3 and the passages cited in the search report). Combining aforementioned features with the user equipment disclosed in document D2 is not considered to involve an inventive step (Article 33(3) PCT).

The additional feature of dependent claim 24 is disclosed in document D2 (both a "hello" message and a "VIP Selection Message" can be considered an initial request for registration) and is therefore considered not to be new (Article 33(2) PCT).

7 INDEPENDENT CLAIM 25

The present application does not meet the criteria of Article 33(1) PCT, because the subject matter of claim 25 does not involve an inventive step in the sense of Article 33(3) PCT.

The document D2 is regarded as being the closest prior art to the subject-matter of claim 25, and discloses (the references in parentheses applying to this document) in terms of claim 25 (column 5 line 48-column 15 line 39, Figures 1, 2):

A user equipment (Digital Entertainment Terminal "DET") for operation in a communications network comprising a first network element (Level 2 Gateway "L2/Server"), the user equipment being arranged to determine that the first network element is out of service by sending a request to the first network element ("hello" message or "VIP Selection Message") and determining that no response has been received from the first network element (column 12 lines 40-54 "provider-unavailable

message"); wherein the user equipment is arranged on determining that the first network element is out of service, to select a new a further first network element (Figure 2I "This provider is currently not available ---- please try again later or select another provider"), and send to the further network element a message comprising an initial request for registration at the communications network (both a "hello" message and a "VIP Selection Message" can be considered an initial request for registration).

The additional feature of dropping a bearer for signalling between the user equipment and the communications network is already disclosed in document D2 (column 13 lines 38-42, column 16 line 16-23) but not as a reaction on determining that the first network element is out of service. Combining the aforementioned feature with the determination that the first network element is out of service is however considered to fall within the scope of customary practice of the man skilled in the art in order to solve the problem of clearing up any remaining states in the user equipment or the network.

Consequently, the subject-matter of claim 25 does not involve an inventive step in the sense of Article 33(2) PCT.

8 INDEPENDENT CLAIM 26

Claim 26 is a representation of claim 25 in terms of method steps. Therefore, the above arguments with respect to the obviousness of the subject-matter of claim 25 similarly apply to claim 26. Consequently, the subject-matter of claim 26 does also not involve an inventive step (Article 33(3) PCT).

9 INDEPENDENT CLAIM 27

The present application does not meet the criteria of Article 33(1) PCT, because the subject matter of claim 27 is not new in the sense of Article 33(2) PCT.

Document D3 discloses (the references in parenthesis applying to this document), in terms of claim 27:

a method for determining a type of registration in a communications network (paragraphs 5.2.2, 5.4.1.2.1, 5.4.1.2.2 and 7.2A.2) comprising at least a user equipment ("UE") and a network element (S-CSCF"), comprising the steps of:

receiving at the network element a request for registration from the user equipment ("REGISTER request");
detecting at the network element an information element ("integrity-protection parameter") in the received request;
determining the content of the information element, and in dependence on the determined content of the information element determining whether the registration request is a first type of registration or a second type of registration (par. 5.4.1.2.1 NOTE 1: "Any REGISTER request sent unprotected by the UE is considered to be an initial registration").

Since all the features are known in combination from D3, the subject-matter of claim 27 is not new (Art. 33(2) PCT).

The same reasoning can be done based on document D4, which discloses a registration request sent from a user equipment (D4, paragraphs 4.1 and 6.2.2.61: "MS") to a network element (D4: "BS", "MSC") containing an information element (D4, paragraph 6.2.2.61: "Location Registration Type") indicating the type of registration.

Also document D1 discloses a registration request (D1, par. 83: "client communication") sent from a user equipment to a network element containing an information element (D1, par. 87, 91-96: "type of communication", "URL") indicating the type of registration (see also point 1 above related to claim 1).

10 DEPENDENT CLAIMS 28 and 29

The additional features of dependent claim 28 are known from document D1 and are therefore considered not to be new (Article 33(2) PCT).

The additional feature of dependent claim 29 is disclosed in document D3 and is therefore considered not to be new (Article 33(2) PCT).

11 INDEPENDENT CLAIM 30

Claim 30 is a representation of claim 27 in terms of a network element arranged to perform the method steps of claim 27. Therefore, the above arguments with respect to the novelty of the subject-matter of claim 27 similarly apply to claim 30.

Consequently, the subject-matter of claim 30 is also not new (Article 33(2) PCT).

12 DEPENDENT CLAIMS 31-33

The additional features of dependent claims 31-33 are known from document D3 (paragraphs 5.2.2, 5.4.1.2.1, 5.4.1.2.2 and 7.2A.2) and are therefore considered not to be new (Article 33(2) PCT).

13 INDEPENDENT CLAIM 34 (when dependent on claims 19-25)

Claim 34, although drafted as an independent system claim, contains all the features of claim 19-25 and 30-33 and is therefore treated as dependent on claim 19-25 and 30-33. The above arguments with respect to the novelty and obviousness of the subject-matter of claims 19-25 and 30-33 also apply to claim 34. Consequently, the subject-matter of claim 34 does not involve an inventive step (Article 33(3) PCT).

D. Peeters
Examiner